2011 Military Health System Conference

Disparities Among Children with Asthma in the MHS

The Quadruple Aim: Working Together, Achieving Success

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27 January 2011

OASD(HA)/TMA-TPOD/HPA&E

Report Documentation Page

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Background

- Analysis of HCSDB shows that racial and ethnic minorities receive care that is similar to, and in some cases better than, whites in terms of
  - Access
  - Preventive Services
  - Experience with providers
- Self-rated health status is worse. Why?
  - Minorities might need more health care than whites
  - Once in care, they might get less care relative to need, or they might get poor quality care
  - Outcomes could be unrelated to health care, e.g., environmental factors

Objectives

- To evaluate differences between minority and white children enrolled in the MHS in:
  - Prevalence of diagnosed asthma
  - Potentially avoidable hospitalizations and emergency room use for asthma
  - Treatment
    - Specialist visits
    - Prescription drug utilization

Methods: Design, Cohort and Data

- Retrospective, cross-sectional cohort analysis (N = 822,900)
  - Children aged 2-17 years continuously enrolled throughout 2007 in TRICARE prime, an HMO-like benefit
  - At least one health care claim for professional services during the year
  - Categorized as:
    - Hispanic
    - Black, non-Hispanic
    - White, non-Hispanic
- Data obtained from TRICARE administrative databases: enrollment (DEERS) and claims data

Methods: cont.

- Logistic regression models
  - Test whether effect of race/ethnicity on outcomes varied by demographic and military-related characteristics
  - Evidence of interactions between race/ ethnicity and age groups (2-4, 5-10, 11-17)
    - Fit separate models by age group for each outcome to facilitate interpretation. All models controlled for:
      - Demographics (child and parent)
      - SES (rank and pay grade)
      - Care seeking behavior (military only providers vs. civilian providers vs. both)
      - Health status (unique drug compounds filled during year)

Results: Logistic Regressions for Diagnosed Asthma

Odds ratios for diagnosed asthma (significant results ($p<0.05$) in bold)

	Hispanic	Black	White
Ages 2-4	**1.16**	**1.66**	1.00
Ages 5-10	**1.42**	**2.00**	1.00
Ages 11-17	**1.37**	**1.96**	1.00

Logistic Regressions for Hospitalizations and ER Visits

Odds ratios for asthma-related hospitalizations and ER use (significant results ($p<0.05$) in bold)

	Hispanic	Black	White
Hospitalizations			
Ages 2-4	1.17	**1.64**	1.00
Ages 5-10	**1.38**	**1.97**	1.00
Ages 11-17	1.06	**1.99**	1.00
ER Visits			
Ages 2-4	1.12	**1.49**	1.00
Ages 5-10	**1.24**	**1.62**	1.00
Ages 11-17	1.02	**1.47**	1.00

Limitations and Conclusions

- Use of Self Reports on Satisfaction, Access, Health
- Use of Administrative Data for Race and Ethnic Categories
- Evidence racial/ethnic disparities in prevalence, asthma hospitalizations and ER use
  - Black and Hispanic children more likely diagnosed with asthma
  - Black children more likely to have hospitalizations and ER visits at all ages
- Results consistent with other studies of asthma among children in general population

Logistic Regressions for Treatment

Odds ratios for asthma-related care (significant results ($p<0.05$) in bold)

	Hispanic	Black	White
Any specialist visit			
Ages 2-4	0.88	**0.71**	1.00
Ages 5-10	**0.72**	**0.80**	1.00
Ages 11-17	0.92	**0.88**	1.00
Any Inhaled Corticosteroids (ICS)			
Ages 2-4	1.06	**1.11**	1.00
Ages 5-10	1.02	**1.11**	1.00
Ages 11-17	**0.89**	**1.11**	1.00

Other Findings from Multivariate Models

- Asthma diagnosis is less common among children living in married households and with one or more siblings, but outcomes are worse in large families (> 3 sibs)
- Asthma is most common in the west south central region and least common in the east south central region
- Children with asthma are more likely to be seen in purchased care-only and least likely to be seen in direct care-only; outcomes appear better in purchased care
- Outcomes are worse among children with multiple health problems and those who see asthma specialists

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CAPT Peter Linz MC USN

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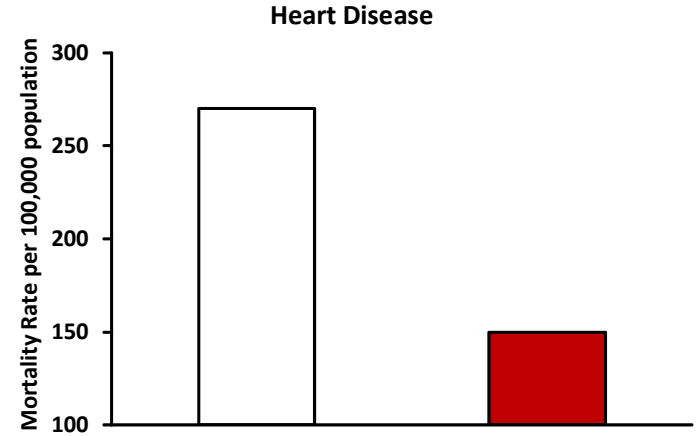
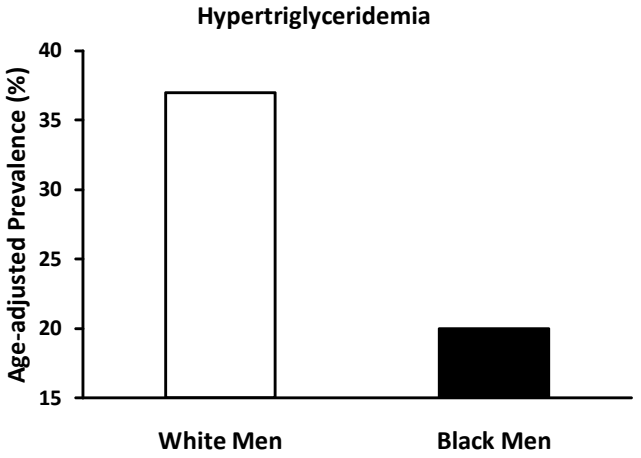
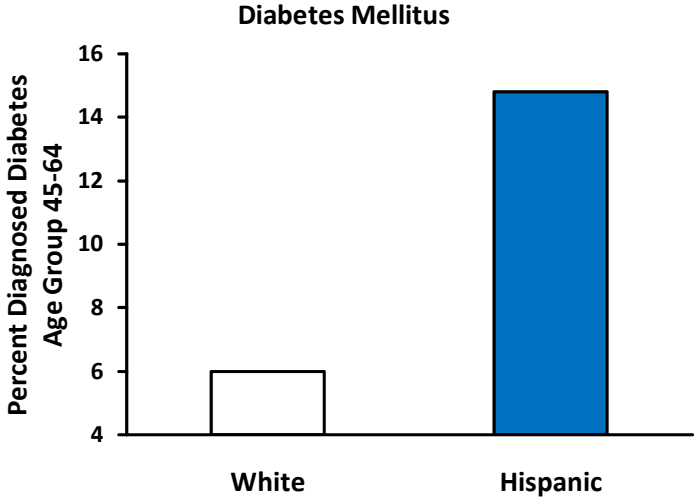
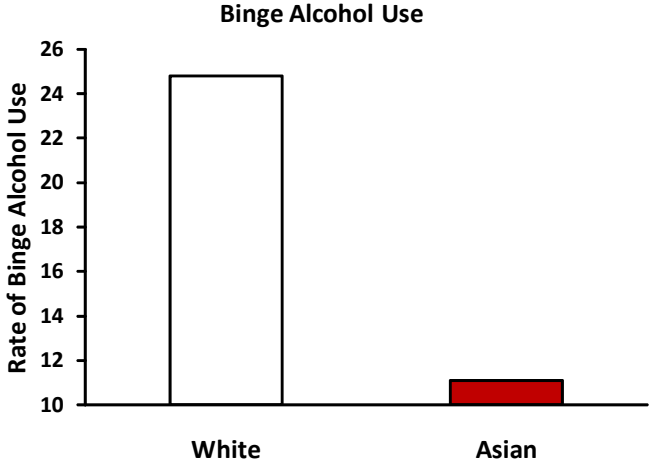
Why This Type of Research Really Matters









1. National Partnership for Action to End Health Disparities; 2010.
2. Ford ES et al. JAMA. 2002;287:356-359.
3. http://www.cdc.gov/diabetes/statistics/index.htm.
4. *Results from the 2009 National Survey on Drug Use and Health: Volume I. Summary of National Findings* (Office of Applied Studies, NSDUH Series H-38A, HHS Publication No. SMA 10-4856)

Backup Slides

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